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Cheryle A. Broom
King County Auditor

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MEMORANDUM

DATE: September 28, 2004

TO: Metropolitan King County Council

FROM: Cheryle A. Broom, County Auditor

SUBJECT: Performance Audit of Department of Development and Environmental Services
Workload and Staffing

Attached for your review is the performance audit of the Department of Development and Environmental Services Workload and Staffing. The audit objective was to review the methodology DDES uses to forecast workload staffing levels to determine if the department is providing services efficiently and economically.

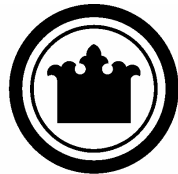
The general conclusion of the audit was that permit processing became more efficient between 2000 and 2003: the hours spent to process permits dropped and the average number of permit reviews conducted per staff increased. We recommended that DDES develop one or more performance measures, similar to those used in this audit, for additional analysis and tracking of the department's efficiency.

The County Executive's response concurred with the audit findings and indicated that DDES will begin tracking and reporting quarterly on the performance measures used in the audit. The executive response is contained in the appendices at the end of the report.

We would like to express our appreciation for the cooperation we received from management and staff of the Department of Development and Environmental Services.

PERFORMANCE AUDIT

**DEPARTMENT OF DEVELOPMENT
AND ENVIRONMENTAL SERVICES
WORKLOAD AND STAFFING**



King County

Presented to
the Metropolitan King County Council
Labor, Operations & Technology Committee
by the
County Auditor's Office

Cheryle A. Broom, King County Auditor
Nancy McDaniel, Senior Management Auditor
Bob Thomas, Principal Management Auditor
Jan Lee, Auditor Assistant

Report No. 2004-04
September 28, 2004

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We conduct audits and studies that identify and recommend ways to improve accountability, performance, and efficiency of county government.

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We are committed to producing substantive work of the highest quality and integrity that results in significant improvements in accountability, performance, and efficiency of county government. We share a commitment to our mission, to our profession, and to a collaborative work environment in which we challenge ourselves to accomplish significant improvements in the performance of the King County Auditor's Office.



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Alternative Formats Available Upon Request

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DDES WORKLOAD AND STAFFING

INTRODUCTION

This performance audit of the Department of Development and Environmental Services (DDES) Workload and Staffing was included in the Auditor's Office 2004 work program adopted by the Metropolitan King County Council. The purpose of the audit was to review the methodology DDES uses to forecast workload and staffing levels to determine if the department is providing services efficiently and economically.

Results in Brief

Our review found that permit processing became more efficient between 2000 and 2003. The hours spent to process permits dropped and the average number of permit reviews conducted per staff increased. Moreover, there was a decrease in the percentage of staff time spent on administrative tasks not directly related to permit processing. This last measure is the only one that DDES currently reports, but tracking and reporting on the other measures could help DDES address customer complaints that it does not adjust staff levels to respond to changes in workload. We recommend that efficiency measures similar to those used in this audit be included in DDES performance measures and reported to the public.

Executive Concurred With Audit

The County Executive concurred with the audit findings and indicated that DDES will begin tracking and reporting quarterly on the performance measures used in the audit. The executive response is contained in the appendices at the end of the report.

AUDIT BACKGROUND

Complaints About Permit Fees Have Led to a Number of Studies

This audit was prompted by council concerns over the number of complaints regarding DDES permit fees and billing practices. A number of studies have been conducted in response to these complaints. Two of the most recent were the DDES Permit Fee Committee Report and the Executive Audit Report, both released in 2003. The Permit Fee Committee, made up of representatives from the building industry, found that the hourly billing system lacked adequate internal controls and had the potential to encourage over-billing. The committee made numerous recommendations for business process improvements, among them the project management system that was implemented this year. The Executive Audit Report noted the building community's concerns that DDES might not be reducing staff commensurate with reductions in workload, but did not reach any conclusions about the adequacy of staffing in relation to workload.

This Audit Focuses on Workload and Staffing Efficiency

Another report in response to these complaints was our office's review of DDES permit review standards in 2002. As follow-up to that report, the council asked that we review the DDES staffing models to determine if the department is providing services efficiently. The efficiency of workload processing relates directly to the fees charged to permit applicants since the fees must recover all of the costs of processing permits.

Audit Methodology and Scope

We reviewed the DDES workload/staffing models and methodology for each permit processing section from 2000 through 2004. We then reviewed the models' forecasts against actual data, including the number of new permits received by each section, hours recorded to specific permit types and tasks, and overtime hours. We reviewed staffing reports to determine staffing levels and how they changed during the year. We also

met with DDES management and staff to learn about the permitting process.

To analyze the relationship between workload and staffing, we developed hypotheses about how various workload and staffing variables would change in relation to each other if staffing was keeping pace with workload, or if mismatches between the two were occurring. We tested these hypotheses by reviewing changes in permit volumes, staffing, permit processing hours, overtime use, and permit backlogs. Our methodology focused on identifying potential red flags, such as permit volume decreasing while staffing increased or remained the same, and increased backlogs or overtime use. It is important to note that we analyzed trends in efficiency only against DDES' own performance over time. Since jurisdictions differ in the permit types they issue and the regulations they enforce, we did not compare DDES' performance against other permitting agencies.

DDES BACKGROUND

DDES Permit Function Is Completely Self- Supporting

DDES permit activities are supported completely by user fees. DDES began moving to self-sufficiency in 1993, when the council adopted financial policies that called for an end to current expense funding to pay for permit processing. As part of being financially self-sufficient, a new fee structure was implemented in 1999 with the intent of ensuring that the fees for each permit reflect the costs of the services provided. DDES retired its fund deficit in 2000, and has maintained a positive fund balance since then.

DDES Permit Processing Divisions

Two divisions in DDES are responsible for issuing permits and enforcing county environmental regulations: the Land Use Services Division and the Building Services Division.

**Land Use Services
Division**

In general, land use permits are the most complex permits that DDES processes. These include all review and inspection activities necessary to prepare land for building or development, and can involve of issues such as wetlands and other sensitive areas, roads, erosion control, zoning, and land use hearings before a hearing examiner. Because of their complexity and the variation among sites, land use permits are billed hourly. The permitting sections in the Land Use Services Division and their main areas of responsibility are:

- Current Planning – review of applications for preliminary plats and short plats; threshold reviews required under the State Environmental Protection Act; environmental impact statements
- Sensitive Areas Review – issues involving wetlands, streams, geological hazards, and other issues related to the county's critical areas ordinance
- Engineering Review – plans for final plats and short plats
- Land Use Inspections – inspections of site infrastructure in preparation for building
- Clearing and Grading – clearing, grading, and forestry permits

**Building Services
Division**

Building permits are generally less complex because major land use issues have been resolved before the building application is submitted. Building permit fees are based on the valuation of the permitted structure. The Building Services Division sections are:

- Intake and Screening – permit applications; monitoring residential permits
- Building Plans Review – structural, mechanical, and safety design of residential and commercial plans
- Site Plan Review – drainage controls, parking, traffic and landscaping when required for new construction

- Building Inspections – inspections of commercial and residential structures
- Fire Inspections – new construction; hazardous material inspections
- Fire Plan Review – new construction plans for adequacy of water supply; hydrant locations; fire lanes

DDES Workload and Staffing Models

The workload/staffing models are one of the tools used by DDES to determine appropriate staffing levels. The first step in developing the models for the coming year is to forecast the building and development activities that are the department's workload, based on a number of economic forecasts and interviews with major builders in King County. This process results in a forecast of permit volumes broken out by specific permit types and related activities. DDES uses timekeeping data to determine the average number of hours to complete the reviews needed for each permit type, and calculates the total number of staff hours required in each section. A percentage is applied to determine the additional time needed for non-direct permit work, such as training, public information, and other tasks that are not specifically related to processing permits. These two numbers yield the total number of work hours needed in each section, which is used as a guideline in setting staffing levels. Supervisors and support staff are not included in the models.

The staffing levels are intended to handle seasonal workload variations without bringing on additional staff. According to DDES management, they meet seasonal workload demands by using overtime and by shifting qualified staff among sections as needed.

FINDINGS

Audit staff analyzed DDES workload and staffing from 2000 to 2003 using several different measures of efficiency and found that overall and by individual sections, permit processing became more efficient. Overall, hours spent to process permits dropped and the average number of permit reviews conducted per staff increased. Moreover, the percentage of staff time spent on permit processing increased, as less time was spent on administrative tasks not related specifically to permit processing.

**Average Hours per
Permit Review
Decreased**

As one measure of efficiency, we looked at the average number of hours spent per permit review. Permit reviews are the key steps in processing permits and the basic workload unit used in the staffing models. Overall, the average annual number of hours per permit review decreased by 16 percent, from 8.9 hours in 2000 to 7.5 hours in 2003.¹ In the Building Services Division, hours per review decreased by 17 percent, from an annual average of 5.4 hours in 2000 to 4.5 hours in 2003. Average annual hours per review in the Land Use Services Division decreased from 24.1 to 21.2, or 12 percent. The higher hours for land use permits reflects their relative complexity.

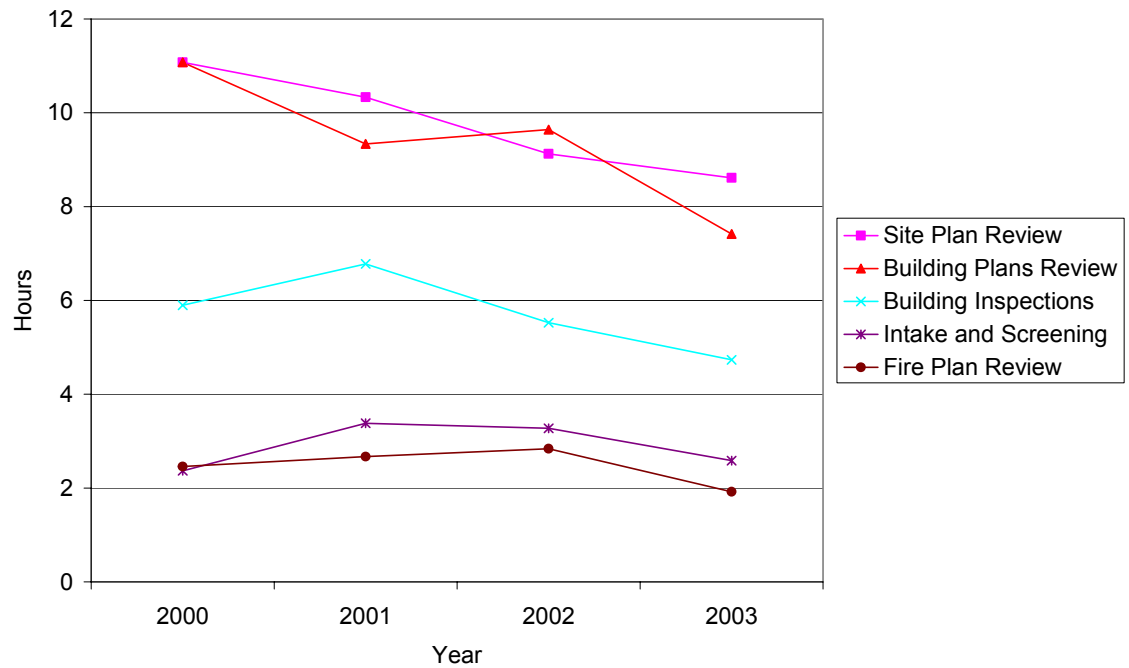
**A Permit May Go
Through Several
Reviews**

It is important to note that because the same permit may go through several reviews, the numbers above do not indicate that a land use permit can be completed in 21 hours. Rather, an average of 21 hours was spent on each of the key reviews required to process a land use permit. The total time to process a land use permit will be higher.

The graphs below show the average annual time per permit review for each section in the Building Services and Land Use Services Divisions. Please see Appendix 1 for the supporting numbers.

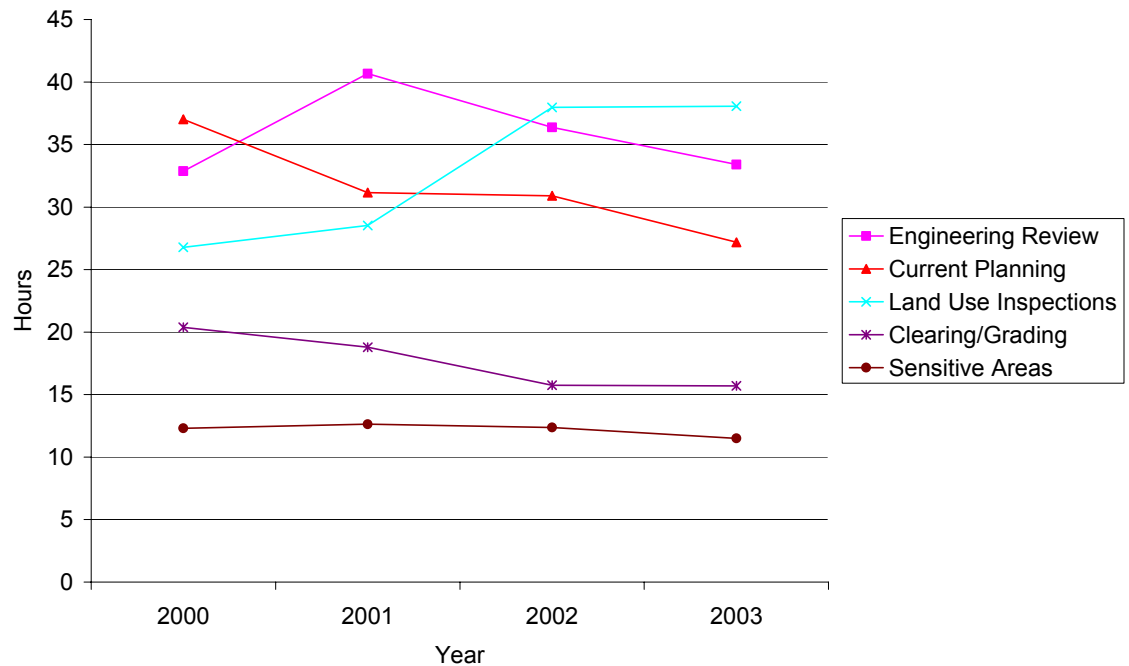
¹ The average includes the time of all staff working in the permit processing sections of DDES, including support staff and supervisors. It does not include time by staff in the division managers' offices or in the Administrative Services Division since they are not permit processing sections.

EXHIBIT A
Average Hours per Building Permit Review



SOURCE: Auditor's Office analysis of DDES data.

EXHIBIT B
Average Hours per Land Use Permit Review



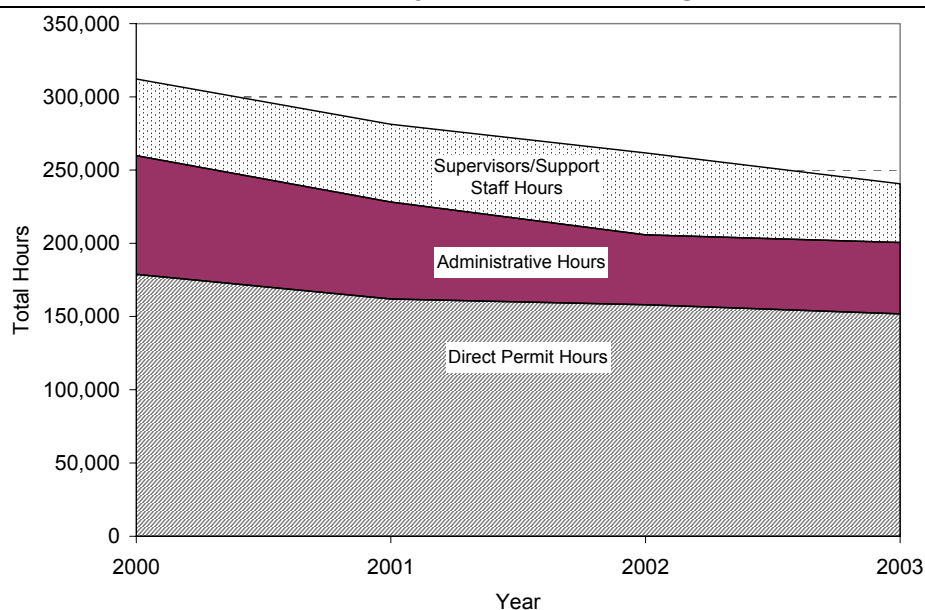
SOURCE: Auditor's Office analysis of DDES data.

As the exhibits show, most sections showed a steady and sustained decrease in average annual hours per permit review, although not all sections showed the same increase in efficiency. A few, such as Land Use Inspections, showed a net increase in annual average review hours from 2000 to 2003. Even in those cases, however, the trend between 2002 and 2003 showed either an increase in efficiency or stayed flat after a year or two of increased time.

**Time Spent on Tasks
Not Directly Related to
Permit Processing Has
Decreased**

Another indicator of efficiency or productivity is the amount of time that is spent on processing permits rather than on administrative tasks. Audit staff calculated the percentage of hours spent by permit staff on tasks directly related to processing permits, the time spent by permit staff on other tasks such as administrative work and training, and time spent by support staff and supervisors. Between 2000 and 2003, the time spent on permit processing increased from 57 percent of all time by staff in the permit processing sections to 63 percent, and time on other administrative tasks dropped from 26 percent to 20 percent. Time spent by support staff and supervisors remained around 18 percent. The exhibit below shows how the total number of hours worked by the permit processing sections decreased between 2000 and 2003, and how the proportion of time making up those hours shifted toward permit processing.

EXHIBIT C
Proportion of Hours by Permit Processing Sections



SOURCE: Auditor's Office analysis of DDES timekeeping data.

**Permit Reviews Per
Staff Increased From
2000 to 2003**

The other indicator of efficiency that we looked at was the average number of permit reviews conducted per staff. Overall, permit reviews per staff increased from 193 in 2000 to 221 in 2003, or 15 percent. (Staff in the division managers' offices and the Administrative Services Division are not included.) By division, the number of building permit reviews per staff rose from 321 to 379 from 2000 to 2003; land use permit reviews per staff increased from 70 to 75. Appendix 2 shows the number of permit reviews per staff in each section.

**DDES Reduced Staffing
Levels Below Changes
in Workload**

These gains in efficiency reflect reductions in staffing levels in the permit processing sections between 2000 and 2003, in greater proportion than the change in permit volumes. Between 2000 and 2003 the number of building permit applications showed a net increase of 13 percent, while Building Services permit processing staff decreased by 22 percent. Land use permits were 15 percent lower in 2003 than in 2000; land use permit processing staff decreased 18 percent in that time. Most

of the reductions in both divisions were in permit processing staff, since they are the largest percentage of staff in the permit sections, but support staff and supervisors were also reduced. Appendix 3 shows the staff numbers for each section.

Staffing remained stable in 2004, but further reductions are planned for 2005. According to DDES management, they will be accomplished through attrition rather than layoffs.

**DDES Made Mid-Year
Staffing Adjustments
Despite Constraints on
Ability to React Quickly
to Workload Variations**

DDES set staffing levels at the beginning of every year to meet the forecasted workload, but also made staffing adjustments during the year as the workload came in higher or lower than forecasted. This was despite limitations on DDES' ability to respond quickly to changes in workload. DDES regularly monitors permit volumes to spot variations from the forecast, but usually waits 60 days in order to determine if a variation is temporary and can be handled with existing staff, or if it indicates a shift in the building industry that requires staffing adjustments. Furthermore, labor agreements require 30 days' notice of a layoff. This adds up to a minimum of 90 days between the first indication that the market may be declining and staff layoffs. The lag time for hiring qualified staff may be even longer, especially for positions that require specific skills or qualifications, such as certification as a civil engineer.

To see if the staffing cuts resulted in unwanted consequences, we looked at permit backlog, which we would expect to increase if sections were understaffed and unable to meet workload demands. We did this by reviewing permit volumes for two sections with the largest decreases in staff and increases in productivity. Backlog did not increase; in fact, the percentage of permits carried over from the previous year declined slightly for both sections.

**DDES Strategies to
Increase Efficiency**

The efficiency gains we saw may be the result of a number of measures that DDES has undertaken to increase efficiency and control the time spent on permit review:

- Tracking hours spent on tasks other than permit processing in order to keep them below 25 percent of staff time;
- Developing timeline standards for completing permit reviews, based on historical average times, and using that information to identify and expedite permits that exceed the average;
- Developing scopes of review to standardize and streamline permit review activities;
- Assigning project managers to most permits to coordinate permit review and monitor permits against the number of hours budgeted for them; and
- Monitoring workload and revenue projections regularly in order to determine if each section's revenues are adequate to meet its costs.

**DDES Performance
Reporting Does Not
Include Efficiency
Measures**

Despite these strategies for increasing efficiency, DDES has not developed the performance measures to support them and determine how effective they have been. Many of DDES' performance measures for permit review relate to timeliness; for example, the percentage of permits that are processed within mandated timelines, as required by state law; the percentage of building inspections made within 24 hours of being requested; and the percentage of applicants who get an intake appointment within four weeks of request. DDES does report on the percentage of time spent on direct permit review, which is also a measure we used in this audit. However, customers' perception of inefficiency at DDES, specifically that the department is not reducing staff consistent with declines in permit volumes, is the basis of many complaints, as described in the beginning of this report. Establishing targets and reporting performance in this area would demonstrate that DDES monitors staff in relation to

workload and acts to keep the two in balance. It would also complement the timeliness measures by giving a fuller picture of the department's performance in providing services efficiently while being responsive to its customers.

RECOMMENDATION

We recommend that DDES develop one or more performance measures to track the department's efficiency in processing permits, similar to the approach in this audit. The measures should be included in the DDES business plan and reported to the public.

APPENDICES

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RECOMMENDATION & IMPLEMENTATION SCHEDULE

Recommendation: DDES should develop one or more performance measures to track the department's efficiency in processing permits, similar to the approach in this audit. The measures should be included in the DDES business plan and reported to the public.

Implementation Date: 1st quarter 2005 and quarterly thereafter.

Estimate of Impact:

- Promote continued focus on opportunities for measurable efficiencies
- Improve accountability to the public

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EXECUTIVE RESPONSE



King County

Ron Sims

King County Executive

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SEP 22 2004

KING COUNTY AUDITOR

September 22, 2004

Cheryle A. Broom
King County Auditor
Room 1020
C O U R T H O U S E

Dear Ms. Broom:

Thank you for sending me the Proposed Final Report – DDES Workload and Staffing. I have reviewed this document with Department of Development and Environmental Services (DDES) staff and we offer the following as comment.

The Proposed Final Report offers only one recommendation, that DDES should develop one or more performance measures to track the department's efficiency in processing permits. The measure should be included in the DDES business plan and reported to the public. We agree with this recommendation and propose to track the following performance measures:

- 1) Quarterly reporting of average permit review time per permit; and
- 2) Average number of permits handled per person.

These performance measures would be reported to the public, quarterly, along with other current updates to my Executive Performance Measurement Initiative.

Thank you for the opportunity to provide comments. My staff and I appreciate the thoroughness and professionalism of the Auditor's Office staff. If you have any questions about this response, please feel free to contact me again.

Sincerely,


for Ron Sims
King County Executive

cc: Kurt Triplett, Chief of Staff, King County Executive Office
Sheryl Whitney, Assistant County Executive
Dave Lawson, Manager, Executive Audit Services
Stephanie Warden, Director, Department of Development and Environmental Services (DDES)
Jim Schaber, Interim Division Director, Administrative Services Division, DDES



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APPENDIX 1
AVERAGE HOURS PER PERMIT REVIEW
PER YEAR

	2000	2001	2002	2003
Building Services				
Building Inspections	5.89	6.78	5.53	4.73
Building Plans Review	11.08	9.34	9.65	7.42
Fire Plan Review	2.46	2.67	2.84	1.92
Intake and Screening	2.37	3.38	3.27	2.59
Site Plan Review	11.08	10.33	9.13	8.61
Division Average	5.44	5.94	5.54	4.51
Land Use Services				
Sensitive Areas	12.31	12.63	12.38	11.51
Land Use Inspections	26.79	28.53	37.97	38.07
Clearing/Grading	20.38	18.78	15.75	15.71
Current Planning	37.02	31.16	30.90	27.18
Engineering Review	32.87	40.67	36.38	33.40
Division Average	24.11	22.92	22.61	21.15

Note: Our count of permit reviews is based on internal workload measures that DDES uses in its staffing models. It reflects every time a permit goes through a key review, and cannot be translated into numbers of individual permits. For example, the numbers above do not indicate that a land use permit should be completed in 21 hours; rather, they indicate that an average of 21 hours was spent on each key review required to process a land use permit.

The Fire Inspections Unit in the Building Services Division was excluded from this analysis because of a change in the way it counted workload in 2001; including it would have skewed the analysis.

SOURCE: Auditor's Office analysis of DDES data

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APPENDIX 2

AVERAGE NUMBER OF PERMIT REVIEWS PER STAFF

	2000	2001	2002	2003
Building Services				
Building Inspections	316	268	305	379
Building Plans Review	165	183	169	251
Fire Plan Review	830	803	558	694
Intake and Screening	602	497	453	663
Site Plan Review	152	173	174	176
Division Average	321	297	290	379
Land Use Services				
Sensitive Areas	165	141	108	136
Land Use Inspections	55	72	40	46
Clearing/Grading	89	74	109	104
Current Planning	40	46	45	51
Engineering Review	55	41	47	49
Division Average	70	71	68	75

Note: Numbers are based on actual FTEs at the beginning of each year.

Our count of permit reviews is based on internal workload measures that DDES uses in its staffing models. It reflects every time a permit goes through a key review, and cannot be translated into numbers of individual permits.

The Fire Inspections Unit in the Building Services Division was excluded from this analysis because of a change in the way it counted workload in 2001; including it would have skewed the analysis.

SOURCE: Auditor's Office analysis of DDES data

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APPENDIX 3

STAFFING LEVELS PERMIT PROCESSING SECTIONS

	2000		2001		2002		2003	
	Production Staff	Supervisors/ Support Staff	Production Staff	Supervisors/ Support Staff	Production Staff	Supervisors/ Support Staff	Production Staff	Supervisors/ Support Staff
Building Services								
Bldg. Inspections	20	7	19	8	18	8	16	7
Bldg. Plans Review	19	5	18	4	17	5	14	1
Fire Plan Review	4	0	3	0	4	0	4	0
Intake and Screening	15	2	14	4	14	4	11	2
Site Plan Review	16	2	13	2	12	3	12	3
Division Total	74	16	67	18	65	20	57	13
Land Use Services								
Sensitive Areas	9	1	13	1	16	1	13	2
Land Use Inspections	18	2	10	2	15	2	13	2
Clearing/Grading	15	3	15	3	10	3	11	2
Current Planning	17	6	13	4	13	4	12	3
Engineering Review	19	3	17	3	15	3	16	2
Division Total	78	15	68	13	69	13	65	11

Note: Numbers are actual FTEs at the beginning of each year.

SOURCE: King County Position Control Reports; DDES payroll records

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